Clean Set of Claims

1. An orthogonal frequency division multiplexing (OFDM) signal frame sync signal generator, comprising:

a bandpass filter adapted to remove a digital portion of a signal corresponding to at least one digital channel from a received OFDM signal; and

an OFDM frame synchronizing correlator adapted to generate a frame sync signal based on a detected correlation of a cyclically extended portion of a data frame in said received OFDM signal after processing by said bandpass filter.

2. The OFDM signal frame sync signal generator according to claim 1, wherein:

said digital portion of said at least one digital channel is a portion in a frequency domain farthest from a center frequency of an analog channel contained in said received OFDM signal.

3. The OFDM signal frame sync signal generator according to claim 1, wherein:

said bandpass filter is adapted to significantly remove a digital portion of each of two digital channels from said received OFDM signal.

4. The OFDM signal frame sync signal generator according to claim 3, wherein:

said digital portion of said two digital channels are respective portions in a frequency domain farthest from a center frequency of an analog channel contained in said received OFDM signal.

7. (A) A method of detecting a timing of a data frame in a received orthogonal frequency division multiplexing (OFDM) signal, comprising:

filtering out a digital portion of a signal corresponding to at least one digital channel from said received OFDM signal to provide a bandpass filtered OFDM signal;

correlating a cyclically extended portion of a data frame in said bandpass filtered OFDM signal; and

generating a frame sync signal based on a correlation of said cyclically extended portion of said data frame.

10. Apparatus for detecting a timing of a data frame in a received orthogonal frequency division multiplexing (OFDM) signal, comprising:

means for filtering out a digital portion of a signal corresponding to at least one digital channel from said received OFDM signal to provide a bandpass filtered OFDM signal;

means for correlating a cyclically extended portion of a data frame in said bandpass filtered OFDM signal; and

means for generating a frame sync signal based on a correlation of said cyclically extended portion of said data frame.

Version with Markings to Show Changes Made

1. (Amended) An orthogonal frequency division multiplexing (OFDM) signal frame sync signal generator, comprising:

a bandpass filter adapted to remove ~~a~~ digital [significant] portion of a signal corresponding to at least one digital channel from a received OFDM ~~signal;~~ and

an OFDM frame synchronizing correlator adapted to generate a frame sync signal based on a detected correlation of a cyclically extended portion of a data frame in said received OFDM signal after processing by said bandpass filter.

2. (Amended) The OFDM signal frame sync signal generator according to claim 1, wherein:

said digital [significant] portion of said at least one digital channel is a portion in a frequency domain farthest from a center frequency of an analog channel contained in said received OFDM signal.

3. (Amended) The OFDM signal frame sync signal generator according to claim 1, wherein:

said bandpass filter is adapted to significantly remove a digital [significant] portion of each of two digital channels from said received OFDM signal.

4. (Amended) The OFDM signal frame sync signal generator according to claim 3, wherein:

said digital [significant] portion of said two digital channels are respective portions in a frequency domain farthest from a center frequency of an analog channel contained in said received OFDM signal.

7. (Amended) A method of detecting a timing of a data frame in a received orthogonal frequency division multiplexing (OFDM) signal, comprising:

filtering out a digital [significant] portion of a signal corresponding to at least one digital channel from said received OFDM signal to provide a bandpass filtered OFDM signal;

correlating a cyclically extended portion of a data frame in said bandpass filtered OFDM signal; and

generating a frame sync signal based on a correlation of said cyclically extended portion of said data frame.

10. (Amended) Apparatus for detecting a timing of a data frame in a received orthogonal frequency division multiplexing (OFDM) signal, comprising:

means for filtering out a digital [significant] portion of a signal corresponding to at least one digital channel from said received OFDM signal to provide a bandpass filtered OFDM signal;

means for correlating a cyclically extended portion of a data frame in said bandpass filtered OFDM signal; and

means for generating a frame sync signal based on a correlation of said cyclically extended portion of said data frame.